

“the heart gives off branches in front and at the sides.” M. Blanchard figures four pairs of *pneumo-cardiac* vessels, which bring the blood from the lungs to the heart, and three pairs of arteries issuing from the heart. There exists only two pairs of pneumo-cardiac vessels, or pulmonary veins; these are constituted by prolongations of the pericardium. Those of the anterior pair collect the blood from the anterior lungs and open into the pericardium opposite the anterior apertures of the heart; those of the posterior pair receive the blood from the posterior lungs and discharge at the level of the intermediate apertures. Further back many prolongations of the pericardium are seen, but these only form ligaments uniting the heart to the dorsal integument.

As for the vessels which carry the blood away from the heart, we may distinguish the following. At the level of the median cardiac apertures there arises, on the inferior face of the heart, a pair of large lateral arteries which ramify abundantly and irrigate the anterior portion of the abdomen. At their origin they are separated one from the other by two hypocardiac ligaments. Below the posterior apertures there arise, like the foregoing, two other lateral arteries of rather narrow diameter, and, between the bases of these, there detaches itself from the heart a capacious trunk which takes a vertical direction. It soon gives rise behind to a branch which I consider as corresponding to the caudal artery of the other Araneida; then, having reached the upper surface of the intestine, near the posterior portion of the rectal sac, this large artery divides into two branches, which pass one to the right and the other to the left of the alimentary canal, and ramify in order to bathe the posterior region of the abdomen.—*Comptes Rendus*, t. cxvi. no. 16 (April 17, 1893), pp. 828-830.

*On further Evidences of Deuterosaurus and Rhopalodon from the Permian Rocks of Russia.* By H. G. SEELEY, F.R.S.

The author endeavours to separate the Labyrinthodont remains, distinguished by having teeth anchylosed to the jaw, from such as belong to animals having a Theriodont type of dentition. The genera founded upon cranial fragments which show the Theriodont type are *Deuterosaurus*, *Rhopalodon*, and *Dinosaurus*. The skull in *Deuterosaurus* is described from new materials, which make known the structure of the palate and other cranial structures. The palate is of Plesiosaurian type. The back of the skull is a vertical plate, and the brain-cavity rises in a long vertical tubular mass to the parietal foramen. The quadrate bones descend below the foramen magnum in a way that is best compared with Plesiosaurs.

The articular end of the lower jaw is identified among bones figured by von Meyer.

The skull of *Rhopalodon* is nearly complete, and has a general resemblance to the skull of the South-African Dicynodont *Ptychognathus*. The orbit is defended with a sclerotic circle of bones. Whereas in *Deuterosaurus* there is only one molar tooth, in *Rhopalodon* there are apparently eight molar teeth, which have the posterior edge finely serrated.

The vertebræ are known from isolated and connected specimens which indicate a larger number than usual of rib-bearing presacral vertebræ, which appear to be not fewer than nineteen, and may have numbered twenty-six. The sacral vertebræ are deeply cupped, and the sacral ribs are developed as in *Nothosaurus* and *Pareiasaurus*. The sacral ribs form part of the articular face of the first sacral vertebra. The pelvis is imperfectly known; the ilium is not so extended as in Dicynodonts, and conforms to the type of *Phoco-saurus*, which is regarded as Theriodont. The pubis and ischium are united together on the Dicynodont plan, but are only moderately developed.

The scapular arch is completely known, and is formed of scapula, coracoid, and pre-coracoid as in *Dicynodon* and *Pareiasaurus*. The humerus and bones of the fore limb were relatively short, and only fragments have been preserved which appear to be referable to ulna and radius.

The hind limb is known from several examples of the femur, which resembles that of *Pareiasaurus* in the proximal end, but at the distal end is more like the type described as *Saurodesmus*.

The tibia is known from its proximal and distal ends; it has a general resemblance to that of *Pareiasaurus*, but is more slender. These types are regarded as constituting a distinct group, named Deuterosauria, which is in many respects intermediate between the Placodontia and Theriodontia, but in skull structure appears also to approach Nothosaurs and Plesiosaurs.—*From the Proceedings of the Royal Society*, June 10th, 1893.

*On a Terrestrial Leech from Chili.* By M. RAPHAEL BLANCHARD.

The discovery of a species constituting a transition between two groups of animals which were previously quite distinct deserves to attract in a special manner the attention of naturalists. This is why we think it our duty to report to the Academy the existence of a Hirudinean which is clearly intermediate between the Glossiphonidæ and the Hirudinidæ.

The animal in question is a land-leech, which is distributed in the south of Chili, between latitudes 40° and 43°, in the provinces Valdivia and Chiloe. In 1871 it was briefly described by Grube under the name *Hirudo brevis*; but it may be said that this author failed to recognize any of the remarkable characters which the creature exhibits and which give it a high importance from the point of view of the genetic connexion of the different species. This leech cannot be retained in the genus *Hirudo* as it has recently been defined by the investigations of Whitman and ourselves. We create for it the new genus *Mesobdella*; this name serves to recall the fact that the species which we are discussing is intermediate between two different groups. In future, therefore, it should be designated *Mesobdella brevis*, Grube.

As contracted by alcohol the animal is 16 millim. in length and 4.5 millim. in width; the posterior sucker is circular and 2 millim. in width. The body is pyriform in appearance, as in the majority of the Glossiphonidæ, but it is not so decidedly flattened as in the